



### Risk Adjustment: Leveling the Field

*“Decision makers at all levels of VHA need to recognize how risk adjustment can isolate the treatment intervention outcomes from pre-existing factors, such as patient illness severity. Understanding these relationships is critical to adopting the best and most cost-effective practices.”*

*Thomas Holohan*

*Chief, Office of Patient Care Services, Veterans Health Administration*

#### What is risk adjustment?

Risk adjustment is a mechanism to compensate for differences among patients that may affect their health care outcomes. It is a way to level the playing field by statistically accounting for illness, demographic and other factors that patients bring into a health care encounter.

#### Why do we need risk adjustment?

Risk adjustment establishes a starting point for sound comparisons about treatment effectiveness, provider performance, and resource needs. Recognizing that not all patients are alike, risk adjustment ensures that clinical treatment and management decisions are grounded in sound information. It is important for the following reasons:

- Risk adjustment is a critical concern in internal quality improvement initiatives and in performance measurement activities involving comparisons of different providers.
- Risk adjustment is necessary in outcome studies seeking to ascertain the effectiveness of specific health care treatments and interventions.
- Risk adjustment is an increasingly important consideration in the allocation of funds to providers.

#### Why is risk adjustment important to managers?

Performance measurement, quality improvement and the pooling and alignment of resources in accordance with local needs are critical components of VA's strategy to provide excellence in health care. Risk adjustment is an essential tool for conducting these activities at the national, network and facility levels.

As VHA implements the Decision Support System (DSS), a patient-focused software program to help manage quality and costs at all levels of VA, risk adjustment will play an increasingly important role for VA managers. Ultimately, DSS will serve as VHA's principal clinical management, budgeting

and planning system. An understanding of risk adjustment will aid clinicians in making informed assessments of new research findings and in deciding whether and how they can change their own practice patterns. Clinicians who are familiar with risk adjustment can better understand activities related to performance measurement, benchmarking, quality improvement, and practice guidelines.

In addition, current research may help refine a risk adjustment model for a new VA capitation-based funding system. The VISNs currently utilize the Veterans Equitable Resource Allocation (VERA) funding system. These efforts are key to VA's goal of deploying resources where most needed.

Risk adjustment systems differ greatly in their ability to explain variations in patient outcome and resource utilization. The greatest limiting factors to any risk adjustment method are the uniformity, reliability and accessibility of the data on which it is dependent. Managers will have to consider these issues when deciding which risk adjustment method to use.

#### What data are used to perform risk adjustment?

Good risk adjustment depends on the collection of good data measuring various dimensions of risk. They may include: age, sex, extent and severity of principle diagnosis, comorbid chronic illnesses, physical functional status, cultural and socioeconomic attributes and patient attitudes and preferences for outcomes. The data may be from administrative sources, medical records or patient surveys. Managers must be aware that the choice of what data set to use for risk adjustment will involve some trade-offs.

#### What issues should VA managers consider with respect to risk adjustment?

Managers need to recognize that if they are planning to do any type of outcome-based comparisons or evaluations, they should use risk adjustment, or their information may be flawed. The type of risk adjustment a manager needs depends

largely on the problems he/she is trying to solve. Selecting the risk adjustment instrument is also important. The instrument can be a commercial product or one developed in-house; either course has pros and cons. Regardless of the risk adjustment process, a thorough and clear explanation of the technical process is critical to acceptance of the results.

Risk adjustment, an essential tool, addresses several important VA objectives: clinical quality improvement, performance measurement, new health care interventions, technology assessment, and rational resource allocation. For these reasons, VA managers need to understand risk adjustment fundamentals. Risk adjustment alone does not provide the answers to the issues we are trying to resolve. Rather, it is a means for helping us find more accurate answers.

### Research findings:

Risk adjustment features prominently in the variety of HSR&D studies described below.

- **The Veterans Health Study (VHS).** This large-scale observational study of veterans who use the VA health care system in New England found that disease burden, as measured in health status surveys filled out by veterans is a good indicator of resource need and consumption. Study results contribute to assessments of disease severity and health-related quality of life for common medical conditions, as part of a comprehensive set of clinical and patient-based measures for VA patients. *Ren XHS, Kazis L, Lee A, et al. Comparing generic and disease-specific measures of physical and role functioning - results from the Veterans Health Study. Medical Care 36(2): 155-166, 1998.*
- **Hospital Length-of-Stay.** The Ann Arbor HSR&D Center of Excellence developed a method to examine hospital-specific, risk-adjusted length of acute care inpatient stay using nationally available administrative data. Researchers are now shifting the focus of their efforts from inpatient stays toward reporting on episodes of care. *Hofer TP, Bernstein SJ, Hayward RA, et al. Validating quality indicators for hospital care. Joint Commission Journal for Quality Improvement 23(9): 455-467, 1997.*
- **Early Readmission Rates.** Drawing on variables available in administrative databases, researchers at the Houston HSR&D Center of Excellence devised a methodology to predict unplanned hospital readmissions. The goal is to use this model to identify hospitals with quality-of-care problems. *Wray NP, Peterson NJ, Soucek J, et al. Medical Care 35(8): 768-81, 1997.*
- **First Time Market Analysis Indicates VA Hospital Quality.** The Cleveland VAMC, using risk-adjusted data, produced the first regional, market-based analysis of relative quality and efficiency of care in a large VA hospital. Researchers compared a wide range of outcomes in a VA hospital with other private-sector hospitals serving Cleveland. They found that major teaching hospitals, despite the perception that they are more expensive than non-teaching hospitals, actually perform better as evidenced by lower

risk-adjusted mortality and length of stay. *Rosenthal GE, Harper DL, Quinn LM, et al. Severity-adjusted mortality and length of stay in teaching and nonteaching hospitals: results of a regional study. JAMA 278(6): 485-90, 1997.*

- **Chronic Disease.** Researchers at the Bedford HSR&D Center of Excellence identified key variables for routine collection in order to assess the quality of care for patients with hypertension, diabetes and chronic obstructive pulmonary disease. They are now using risk-adjusted diagnostic information from VA databases to predict resource utilization in outpatient settings. Central to this project is the development of risk-adjusted outcome measures and evaluating associations between processes and outcomes of care. *Berlowitz DR, Brandeis GH, Moskowitz MA. Using administrative databases to evaluate long-term care. Journal of the American Geriatrics Society 45(5): 618-623, 1997.*

### Selected sources for risk adjustment information:

Iezzoni LI. *Risk Adjustment for Measuring Healthcare outcomes.* 2nd Edition. Ann Arbor: Health Administration Press, 1997.

Anderson RV. *Can risk assessment tools be feasibly used in the health benefit marketplace?* *Advances in Health Economics and Health Services Research* 12: 3-18, 1991.

Bowen B. *The practice of risk adjustment.* *Inquiry* 32: 33-40, 1995.

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Visit the Research and Development web page at <http://www.va.gov/resdev/prt>; download a PDF version of the primer *Risk Adjustment: A Tool for Leveling the Playing Field*

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